

### ABSTRACT

Described herein are ammonia-oxidizing bacteria. Particular bacteria of the present invention are tolerant of freshwater environments, saltwater environments or both. Furthermore, in various embodiments, various bacteria of the present invention are capable of surviving a freeze-drying process, and may remain viable thereafter. Methods for detecting the bacteria of the present invention are also provided. Such methods may be effected by any conventional methodology, such as with a DNA chip.